CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 82-12

NPDES NO. CA0028185

WASTE DISCHARGE REQUIREMENTS FOR:

FAIRCHILD CAMERA AND INSTRUMENT CORPORATION
BERNAL ROAD
SAN JOSE, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. Fairchild Camera and Instrument Corporation, (hereinafter called the discharger), a manufacturer of semi-conductor devices located at 101 Bernal Road, San Jose, submitted an application dated October 28, 1981 for renewal of waste discharge requirements and a permit to discharge wastes under the National Pollutant Discharge Elimination System. The current Order No. 76-134 lists the discharger as Fairchild Semiconductor. The application notes a name change due to company reorganization.

2. The discharger discharges approximately 200,000 gallons per day (gpd) of reject water (Waste 001) from a reverse osmosis unit. The waste will be discharged to a storm drain tributary to Canoas Creek a tributary of the Guadalupe River, a water of the United States.

3. The discharger reported an underground fiberglass solvent storage tank leaked a mixture of 1, 1, 1, trichloroethane (TCA), trichloroethylene (TCE), xylene, acetone, and isopropylalcohol (IPA) and possibly other constituents. The contamination appears to be confined to an area between the plant and Great Oaks Water Company's Well No. 13. The discharger has proposed to extract and treat contaminated groundwater from Great Oaks Water Company Well No. 13 and from a new extraction well(s) in the main pollutant plume near the plant. This treated water, up to 10 million gallons per day, will be discharged to Canoas Creek via the same storm drain mentioned in Finding 2 above. The discharge of approximately 720,000 gallons per day (500 gallons per minute) of treated groundwater from Well No. 13 commenced on January 19, 1982. The proposal for this initial discharge was approved by the Santa Clara Valley Water District, State Department of Health Services and State Department of Fish and Game and acknowledged by this Regional Board's Executive Officer as it would reduce the likelihood of groundwater contamination spreading to uncontaminated areas.

4. The groundwater contamination investigation being conducted by the discharger has concluded that pumping from Great Oaks Water Company Well No. 13 at approximately 1,5 million gallons per day (1000 gallons per minute) is necessary to assure that the entire leading edge of the contaminant plume will be drawn into Well No. 13 and not allowed to proceed around this

location. However, the discharger only has the capacity to treat the initial extraction quantity. Additional treatment capacity will be available by March 29, 1982. It is prudent to allow an immediate increase in the quantity of water being extracted from Well No. 13 even if interim discharge limits must be increased.

5. The existing activated carbon system has demonstrated the ability to reduce the concentrations (the major contaminant found in Well No. 13) of TCA to below 0.005 mg/l (5.0 parts per billion) on the average and 0.025 mg/l (25 parts per billion) as a minimum based on a flow of 0.75 million gallons per day. This is the best technology available to Fairchild and should be achievable after March 29, 1982 at a flow of 1.5 million gallons per day since they will double their treatment capability on that date.

6. Contaminants found in the main plume which will be extracted by on-site wells in the immeidate future include 1, 1, 1, trichloroethane (TCA), xylene, acetone, isopropylalcohol (IPA) and trichloroethylene (TCE). This extraction system and an activated carbon and air stripping treatment system will be available in early April 1982 according to the discharger.

   Limits based on best available technology for exylene, IPA, TCE, or acetone cannot be determined at this time, however, limits for TCA as described in Finding 5 will provide for significant removal of xylene, IPA and TCE.

7. The Board, in April 1975, adopted a Water Quality Control Plan for the San Francisco Bay Basin. The Plan contains water quality objectives for San Francisco Bay.

8. The beneficial uses of Canoas Creek and the Guadalupe River are:

   a. Recreation
   b. Fish migration and habitat
   c. Habitat for wildlife
   d. Esthetic enjoyment

9. Effluent limitation and toxic effluent standards established pursuant to Sections 208(b), 301, 304 and 307 of the Federal Water Pollution Control Act and amendments thereto are applicable to the discharge.

10. The Board has notified the discharger and interested agenices and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

11. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21000) of Division 13 of Public Resources Code (CEQA) in accordance with Water Code Section 13389.

12. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall take effect at the end of ten days from date of hearing provided the Regional Administrator, U.S. Environmental Protection Agency, had no objections.

13. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Fairchild Camera and Instrument Corporation, Bernal Road, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Water Pollution Control Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Effluent Limitations

1. Reverse Osmosis Effluent Limitations - Waste 001

a. The discharge of an effluent containing constituents in excess of the following is prohibited:

Constituent	Units	Maximum Daily
Flow	gallons per day	200,000
Total Dissolved Solids	mg/l	800

b. The effluent shall not have a pH of less than 6.5 nor greater than 8.5.

c. The effluent shall not have a chlorine residual greater than 0.0 mg/l.

d. In any representative set of samples the waste as discharged shall meet the following limit of quality:

TOXICITY:

The survival of Rainbow Trout test fish in 96 hour bioassays of the effluent shall achieve a median of 90% survival for three consecutive samples and a 90 percentile value of not less than 70% survival for 10 consecutive samples.

e. No wastewater shall be discharged to waters of the State during periods in which it contains a biocide or algaecide.

2. Treated Ground Water Discharge Effluent Limitations Waste 002

A. Through March 29, 1982 the discharge of extracted groundwater from Great Oaks Water Company Well No. 13 containing 1, 1, 1 trichloroethane (TCA) in excess of one-half the concentration found in the extracted water is prohibited; however discharges containing greater than 3.5 mg/l 1, 1, 1 trichloroethane is prohibited. The discharge shall be limited to no more than 2.0 million gallons per day.

b. After March 29, 1982 the discharge of extracted groundwater from Great Oaks Water Company Well No. 13 containing 1, 1, 1 trichloroethane above the following concentrations is prohibited:

30-day average	0.015 mg/l
daily maximum	0.03 mg/l

c. The discharge of extracted groundwater from the main contaminant plume adjacent to the plant containing 1, 1, 1 trichloroehtane above the following concentrations is prohibited:

30-day average	0.015 mg/l
daily maximum	0.03 mg/l

d. The discharge of extracted groundwater from the main contaminant plume adjacent to the plant shall be treated utilizing all available treatment capability including air stripping in order to maximize the removal of contaminants.

e. The discharge of treated groundwater shall not cause the capacity of the storm sewer system to be exceeded.

B. Receiving Water Limitations

1. The discharge of wastes (001 and 002) shall not cause the following conditions to exist in waters of the State at any place.

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

   e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a. Dissolved oxygen — 5.0 mg/l minimum. Annual median - 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause cause further reduction in the concentration of dissolved oxygen.

b. Dissolved Sulfide — 0.1 mg/l maximum.

c. pH — Variation from natural ambient pH by more than 0.2 pH units.

3. The discharge shall not cause a violation of any applicable water quality standard for receving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

C. Provisions

1. Neither the treatment nor the discharge of pollutants shall create a nuisance as defined in the California Water Code.

2. The discharger shall comply with all sections of this Order except A.2.b. immediately upon adoption.

3. The discharger shall comply with section A.2.b. of this Order by March 29, 1982.

4. The discharger shall, within 30 days of starting extraction, treatment and discharge of groundwater from the main pollutant plume near the plant, submit a report evaluating the effectiveness of the proposed treatment system (i.e. activated carbon and air stripping) in removing xylene, IDA, TCE, TCA, acetone and any other contaminants found in the extracted groundwater. This report shall also evaluate other treatment systems which could provide more effective contaminant removal. These contaminants shall be limited to those discharged from the Fairchild facility or breakdown products of these contaminants discharged.

5. The discharger may submit a report evaluating all available technology which may be utilized to remove contaminants found in extracted groundwater. These contaminants shall be limited to those discharged from the the Fairchild facility or breakdown products of those contaminants discharged. This evaluation should at a minimum consider the costs associated with providing varied degrees of contaminant removal. The Board may utilize this evaluation in establishing limits for the discharge of various contaminants based on Best Available Technology economically achievable (BAT).

6. This Order includes all items except A.5, 7, 12, 16; B.3 and B.5 of the attached "Standard Provisions", dated April 1977.

7. This Order expires on March 17, 1987, and the discharger must file a Report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

8. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by a letter, a copy of which shall be forwarded to this Board.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on March 17, 1982.

FRED H. DIERKER
Executive Officer

Attachments:
Standard Provisions 4/77
Self-Monitoring Program